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THE EQUITY OF PUBLIC EDUCATION FUNDING IN GEORGIA, 1988 - 1996

Ross H. Rubenstein
Dwight R. Doering
Larry R. Gess

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Georgia State University
Andrew Young School of Policy Studies

1215 UL, 404-651-3500, frp@gsu.edu
MSC 2A1240, Georgia State University, 33 Gilmer Street, SE Unit 2, Atlanta, Ga 30303-3082

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THE EQUITY OF PUBLIC EDUCATION FUNDING IN GEORGIA: 1988-1996

EXECUTIVE SUMMARY

Equity of educational funding has been a dominant concern of school finance research, policy and litigation for the past thirty years. Since the Serrano v. Priest decision in 1971, the vast majority of states have faced challenges to their school finance systems. Georgia last faced a challenge to its system of funding K-12 schools in 1981 in McDaniel v. Thomas. While the court upheld the constitutionality of Georgia's system, the decision acknowledged the large disparities in educational expenditures that existed across districts. The decision led directly to the drafting of the Quality Basic Education Act (QBE) in 1985, which enacted the current system of state grants to local school districts. This report examines changes in the equity of public education funding in Georgia since the implementation of QBE. It finds that while disparities in per-pupil funding still exist across districts in Georgia, these funding differences are due in part to the differential costs facing districts in different parts of the state and the mix of students that each district serves as well as differences in property wealth across districts. While wealthier districts typically have higher per-pupil revenues than do poorer districts, state funding helps to greatly reduce resource differences across rich and poor districts.

How Does QBE Work?

The largest component of QBE is a foundation program, in which per-pupil funding is based on the estimated costs of providing each of thirteen (initially twelve) instructional programs. The foundation program guarantees each district a minimum (foundation) level of per-pupil revenue, with program weights reflecting the estimated cost

of providing each program for one full-time equivalent (FTE) student. For example, the most inexpensive program (currently regular classroom grades 9-12) carries a weight of 1.0, with a foundation level of $1,720 in fiscal year 1996. More expensive programs carry higher weights, thereby earning districts a higher foundation amount for students in these programs.

The QBE Act set the required local contribution to education funding (known as Local Fair Share) at five effective mills levied on each district's equalized adjusted property tax base. Therefore, wealthier districts contribute a larger share of the foundation amount than do poorer districts. The QBE act also added a small Guaranteed Tax Base (GTB) program (known as equalization grants) operating on top of the foundation. The GTB guarantees an equal tax yield from mills 5-8.25 for all districts below the 90th percentile in per-pupil property wealth. Unlike Local Fair Share, participation in the equalization program is voluntary.

Framework For Analyzing Equity

This report examines three related yet distinct concepts of equity: horizontal equity, vertical equity, and equal educational opportunity. Horizontal equity, defined as the equal treatment of equals, examines the distribution of per-pupil resource across districts. Greater equality of per-pupil funding across districts indicates higher levels of horizontal equity.

Vertical equity, defined as the appropriately unequal treatment of unequals, is a more difficult concept to operationalize. Not all students have the same educational needs, and funding strategies generally address students' special needs by providing greater

resources to districts serving students who might require additional or more intensive services. The level of additional funding that such students should receive is often difficult to define, however. The Georgia QBE program provides an opportunity to analyze vertical equity using the student weights set annually by the Georgia General Assembly. These weights, which reflect the greater costs associated with educating students in various grades and those with special needs, facilitate vertical equity analyses to determine whether students in each of these programs appear to receive "appropriate" levels of funding, as defined by the QBE formula.

Equal educational opportunity examines the relationship between per-pupil revenues and district or student characteristics that might be considered "illegitimate" for the purposes of funding decisions. Since most school districts rely heavily on the property tax for own-source revenues, the most common focus of equal opportunity analysis is district property wealth per pupil and its relationship with revenues for education. A neutral (or negative) relationship between local wealth and per-pupil resources indicates equal opportunity. This principle is also commonly referred to as "fiscal neutrality" If disparities across districts exist, it important to determine whether these differences are due to "illegitimate" factors (such as differences in local wealth) or other factors (such as differences in local preferences for education).

Data and Results

All revenue and student data used in this study come from district-level financial reports collected annually by the Georgia Department of Education (DOE). Property tax digest data come from the Georgia Department of Revenue. The analyses focus only on

state and local per-pupil revenues for education. Federal funds are excluded from these analyses since they are outside the control of the state. The revenues include all resources from the General Fund and Special Programs Fund used to provide direct instruction, student support, instructional improvement, school and district administration, educational media, and facility maintenance and operations (M and O), but do not include funds designated for capital outlay, food service, transportation or adult education.

The data are adjusted to reflect differences in the purchasing power of educational dollars across districts within the state, as well as differences over time. The cost indices used to adjust for geographic cost differences estimate teacher salary differences and other cost of living differences across districts, while controlling for factors outside local districts' control, including amenities that make teaching positions relatively more or less attractive. The analyses use both unadjusted (nominal) and adjusted (real) data to examine resource disparities.

Examining average spending levels, the analyses show that real state and local revenues for education have generally declined since 1988. While nominal per-pupil revenues for education (from state and local sources) increased in each year from 1988 to 1996 (rising from $2,919 to $4,404 per pupil), real revenues generally declined between 1990 and 1994, and then increased slightly through 1996. Despite this increase, real revenues remained lower in 1996 than in 1988.

Examining disparities across districts, the analyses offer no "smoking guns" in terms of equity. The longitudinal trends show that equity worsened during a time of statewide recession in the early 1990s, but generally improved during the subsequent economic

recovery. The greatest disparities are generally found in the early 1990s, particularly 1991 and 1992. While the overall distribution of revenues appears to be more equitable in recent years, the relative share of revenues devoted to students in the lower half of the distribution appears to be declining. Thus, low-revenue districts may not be sharing equally in the revenue increases found in recent years.

The results generally show greater funding equity across districts when student needs are taken into account through the QBE program weights. This pattern should not be surprising, though, since the QBE formula explicitly allocates funds in relation to student needs. Therefore, a portion of the revenue disparities found in the horizontal equity analysis may merely reflect differences in student needs rather than an "unfair" resource distribution. However, to the extent that the QBE weights do not reflect actual differences in the costs of educating these students, the analyses may over- (under-) estimate the level of vertical equity in Georgia.

While the QBE formulas make no adjustment for cost of living differences across the state (and, by extension, the purchasing power of educational dollars), the analyses show that the distribution of revenues across districts appears somewhat more equitable when these cost differences are taken into account. This pattern suggests that the highest cost districts (which are primarily located in metropolitan Atlanta) tend to also have the highest revenues. The data bear out this hypothesis. In 1996, for example, the twelve districts with the highest cost of education indices (all located in metropolitan Atlanta) faced average costs approximately 15 percent higher than the state average. These districts also had average nominal revenues above the state average.

The revenue differences described also reflect, in part, large disparities in local property wealth across districts. In 1996, the wealthiest 20 percent of districts averaged over three times the wealth of the poorest 20 percent. These wealth differences clearly translate into resource differences as districts in the wealthiest quintile had an average of almost $600 more in state and local revenue (adjusted for cost differences) per pupil than did those in the poorest quintile. These disparities might be much greater in the absence of state funding, however, since the state's wealthiest districts generated an average of almost three times as much local revenue per pupil as the poorest districts. The data also show that, under QBE, tax effort is relatively equalized across groups of districts. While the distribution of state revenue to districts helps to greatly reduce the inequalities arising from differential property wealth, it does not completely eliminate these resource differences.

Changes in relative state funding over time also appear to affect the degree of funding equity within the state. The state share of basic K-12 revenues generally declined

during the first eight years of the analysis, from 60.0 percent in FY 1988 to 55.7 percent in FY 1994. Equity worsened over the same period and particularly in FY 1992, a year that saw a sharp decline in the share of total revenues. When the state increased its share of basic K-12 funding for two consecutive years (FY 1995 and FY 1996), equity improved. State funding for education is strongly influenced by environmental and political factors, such as the health of the state's economy and state budget priorities. These findings suggest that funding trends should not be examined in isolation from the larger educational and economic context of the state.

Conclusions

While the analyses do not suggest that severe inequities have appeared since the enactment of the QBE reforms, subsequent analyses must also examine the adequacy of funding in Georgia. Despite efforts to increase spending, per-pupil expenditures in Georgia remain below the national average.[1] Additionally, the performance of students in the state has often been among the lowest in the country.[2] With the relatively low share of basic K-12 revenues (under 40 percent) borne by local systems, the state may continue to look to districts to share the burden of any spending increases. The State share of total K-12 revenues including federal revenue decreased from 53.9 percent in FY 1988 to 47.9 percent in FY 1996, while the local share increased from 40.0 percent to 45.6 percent. Total K-12 revenues include all basic K-12 revenues plus revenues for food services, student transportation, and capital outlay. As these equity analyses demonstrate, policy

[1]US Department of Education, National Center for Education Statistics. *Digest of Education Statistics*, 1997. NCES 98-015 Washington, DC: 1997. Table 168.

[2]For example, in 1998 Georgia's average Scholastic Assessment Test (SAT) scores ranked 21st of 23 states in which over 50 percent of likely high school graduates took the SAT.

makers must be aware of the potential equity consequences caused by heavier reliance on local funding. The potential tradeoffs between equity and adequacy, and the increasing disparities for low-revenue districts, provide a partial agenda for further study of Georgia's school finance reform efforts.

THE EQUITY OF PUBLIC EDUCATION FUNDING IN GEORGIA, 1988-1996

I. Introduction

Equity of educational funding has been a dominant concern of school finance research, policy and litigation for the past thirty years. Since the *Serrano v. Priest* decision in 1971, the vast majority of states have faced challenges to their school finance systems.[1] Despite differences in the legal strategies employed in these cases, most have centered on the interdistrict equity of funding within states. In recent years, researchers have also made strides in the analysis of intradistrict equity.[2] However, since virtually all states fund districts rather than schools,[3] district-level analyses remain an important source of information about the effects of state funding systems on the distribution of educational resources.

This paper contributes to the body of research on school finance equity by presenting longitudinal analyses of school finance equity in the State of Georgia for fiscal years 1988-1996. Additionally, the paper describes the process of adjusting district expenditures to reflect cost differences across districts, and compares the results of analyses using adjusted and unadjusted revenue data. Specifically, the study addresses four research questions:

1. Has the distribution of educational resources across districts become more equitable since the enactment of Georgia's current funding system?
2. Has the distribution of resources for special needs students become more equitable over time?
3. Does the distribution of funding across districts appear more equitable when adjusting for differential costs facing districts?
4. Can revenue disparities be explained by differences in property tax wealth across districts?

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[1]Austin D. Swanson and Richard A. King, *School Finance: Its Economics and Politics*, 2nd ed. (New York: Longman Publishers USA, 1997): 298.

[2]Leanna Stiefel, Ross Rubenstein and Robert Berne, "Intra-District Equity in Four Large Cities: Data Methods and Results," Journal of Education Finance 23 (Spring 1998): 447-467.

[3]Hawaii, with no local districts, is the lone exception.

The next section of the paper provides background on Georgia school finance, including a description of the current system of state grants to local education agencies, known as the Quality Basic Education program (QBE), and discussion of the events that spurred the state to adopt QBE. The third section describes the data used in the analyses and the cost adjustment methodology. The fourth section discusses the concepts of horizontal and vertical equity and equal educational opportunity, as well as the methods used to measure them, while the fifth section presents results of the analyses. The final section provides conclusions, policy implications and an agenda for future research on Georgia school finance.

II. Background

The history of school finance in Georgia offers an interesting case study of reform in the wake of failed litigation. Georgia's funding system prior to QBE, known as the Adequate Program for Education in Georgia (APEG), was a relatively modest foundation program consisting primarily of grants to local systems to fund specific expenditures. These grants operated on a reimbursement basis, with districts receiving funding only for actual expenditures.[4] The total local contribution was frozen at $78.55 million, with individual districts contributing in proportion to their share of the total statewide property tax digest. By the mid-1980s, most districts were contributing revenue approximately equivalent to that raised through one effective mill levied on their equalized property tax digest. No equalization of fiscal capacity took place beyond the required local contribution.

The combination of low APEG funding and little wealth equalization eventually led to a constitutional challenge to Georgia's school finance system. In the *McDaniel v. Thomas* case, plaintiffs argued that APEG's reliance on local property taxes rendered it insufficient to meet the

[4]The reimbursement rate was determined by the state, not by actual district costs.

state's constitutional obligation to provide "an adequate education for the citizens" of the state.[5] Moreover, plaintiffs asserted that, as part of the obligation to provide an adequate educational program, the state must also provide greater equity of funding across districts. The decision, handed down in 1981, acknowledged the large disparities in educational expenditures that existed across districts, but still upheld the constitutionality of the Georgia funding system.

In the wake of the *McDaniel* decision, then-governor Joe Frank Harris appointed the Education Review Committee to examine APEG and to recommend changes in the state funding system. The Committee's recommendations, released in November 1984, led directly to the drafting of the Quality Basic Education Act. The QBE Act was unanimously passed by the Georgia General Assembly in 1985 and was phased in starting with the 1986-87 school year.[6]

The largest component of QBE is a foundation program, in which per-pupil funding is based on the estimated costs of providing each of thirteen (initially twelve) instructional programs.[7] The foundation program provides program weights for each of the thirteen funding categories, reflecting the estimated relative cost of providing each program for one full-time equivalent (FTE) student. The most inexpensive program (currently regular classroom grades 9-12) carries a weight of 1.0. More expensive programs carry higher weights, thereby earning districts a higher foundation amount for students in these programs. The weights are determined by "costing out" the components for each program, for each one-sixth of the school day that students spend in the programs.[8] In practice, recommended pupil-teacher ratios and the statewide teacher salary schedule are the most significant factors in determining the weights, with higher weights reflecting lower pupil-teacher ratios.

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[5]Ga. Constitution, Article VIII, sec. I.

[6]Three months of FY 87 were funded under APEG. FY 88 was the first year entirely funded through the QBE provisions.

[7]These funding categories include grade level programs, such as grades 4-5 or 9-12, as well as special education and gifted education programs. See Appendix A for a list of the program areas.

The QBE Act also raised the required local contribution (known as Local Fair Share) to five effective mills[9] and added a small Guaranteed Tax Base (GTB) program operating on top of the foundation. The GTB equalizes the revenue raised from mills 5-8.25 for all districts below the 90th percentile in per-pupil property wealth.[10]

Beginning in FY 1995, Governor Zell Miller began a campaign to raise Georgia's traditionally low teacher salaries to the national average. To achieve this goal, the General Assembly adopted a series of annual six percent increases in Georgia's minimum teacher salary schedule. While the state funded the salary schedule increases through the QBE formula allotments, districts have been responsible for local supplements above the minimum salary, and for a portion of the increased costs for employee benefits.[11] Districts may choose to pay salaries above the minimum, although the state-funded increase does not apply to these local supplements.

Aside from this change in the major QBE cost component (teacher salaries), the QBE formula has undergone only minor adjustments since it was first enacted. For example, in FY 1991, the grades 4-8 program area was split into two separate program areas, while in FY 1992 the state cut QBE funding for school administrators, central office personnel, and facility maintenance and operations (M and O).[12] Other changes have primarily been small adjustments to the program weights reflecting increases in the state's minimum salary schedule for teachers. The relative stability of the funding formula provides an opportunity to analyze the long-term effects

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[8]These components include recommended ratios for teachers, administrators, and support staff per-pupil, as well as allotments for indirect costs, facility maintenance, staff development and instructional media.

[9]The increase in Local Fair Share was phased in, and was fully implemented in FY 1988.

[10]Participation in the equalization program, unlike the foundation program, is voluntary.

[11]Georgia School Superintendents Association, *Ten Reasons Why Local Boards of Education are Faced with Increased Local Costs When New State QBE Funds are Allocated Primarily for an Increase to the Minimum Teacher Salary Schedule*, (Atlanta, GA: GSSA, September 1997).

[12]The cuts substantially reduced state funding for these expenditures, and funding has since remained at FY 1992 levels.

of a school finance reform initially designed to improve equity, and to explore the consequences of changes in funding priorities over time.[13]

III. Data and Methodology

All revenue and student data used in this study come from district-level financial reports collected annually by the Georgia Department of Education (DOE). Property tax digest data come from the Georgia Department of Revenue. Revenue data were aggregated into several categories using fund and account codes and per-pupil variables were created using district FTE counts.[14] The analyses presented here focus only on state and local per-pupil revenues for education.[15] The revenue variable includes all resources from the General Fund and Special Programs Fund used to provide direct instruction, student support, instructional improvement, school and district administration, educational media, and facility maintenance and operations (M and O). It does not include revenues designated for capital outlay, food service, transportation or adult education.

After constructing the revenue variables, the data were adjusted to account for the different costs facing each district across the state, using a "hybrid" of the cost indices created by Chambers[16] and McMahon.[17] Chambers's Teacher Cost Index (TCI) uses a hedonic wage model to estimate teacher salary differences across districts while controlling for factors outside local districts' control, including amenities that make teaching positions relatively more or less

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[13]This paper does not compare equity under QBE to that under APEG. See Jeffrey Williams, *Variation in Expenditures Per Student Among Georgia School Systems: Impact of the Quality Basic Education Act on Fiscal Neutrality and Local Tax Effort*. (University of Georgia: unpublished dissertation, 1990) for an analysis of QBE's initial effects on equity.

[14]All student counts include underage students in kindergarten and first grades. The State provides no funding for these students, however.

[15]Federal funds are excluded from these analyses since they are outside the control of the state.

[16]Jay G. Chambers, *Public School Teacher Cost Differences Across the United States*. (Washington, DC: U.S. Department of Education, National Center for Education Statistics, 1995).

attractive. McMahon's Cost of Living index (COL) more broadly estimates cost of living differences across districts based on factors such as housing costs, per capita income, and population density.[18]

Since school district face costs for both personnel services and non personnel goods, we applied the two indices to different components of districts' expenditures. Chambers's TCI is applied to salaries and benefits, and McMahon's COL to the remainder of expenditures.[19] Since the proportion of total spending devoted to salaries and benefits differs across districts, the relative shares of total district expenditures adjusted by the TCI or the COL vary across districts. The cost adjustment ratios were determined by expenditure, rather than revenue, patterns. Since this study focuses on revenues, we adjusted each district's revenues using the same ratio of the Chambers and McMahon indices used in the expenditure adjustments for that district.

The longitudinal approach in this study requires adjustments for annual, as well as geographic, price differences. For this purpose, we used the Consumer Price Index (CPI) for "Services, less medical care services"[20] to adjust the data to reflect price changes over time.[21] Thus, the data reflect price differences across districts and over time.

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[17]Walter W. McMahon "Intrastate Cost Adjustments." In *Selected Papers in School Finance 1994*, ed. William J. Fowler, Jr. (Washington, DC: U.S. Department of Education, National Center for Education Statistics, 1996).

[18]An updated Cost of Education Index is forthcoming from Chambers but was not available for this study. Duncombe, Ruggiero and Yinger (William J. Duncombe, John Ruggiero, and John Yinger, "Alternative Approaches to Measuring the Cost of Education," in Helen F. Ladd ed., *Holding Schools Accountable: Performance-Based Reform in Education* (Washington DC: The Brooking Institution, 1996): 327-356) construct detailed cost indices that adjust for input prices and environmental costs facing districts while controlling for school district efficiency. They develop these indices for New York State districts only, however.

[19]All cost adjustments are normed to national averages. Most districts in Georgia face costs below the national average.

[20]The CPI for "Services, less medical care services" comes from the Department of Labor, Bureau of Labor Statistics (BLS). As discussed in Rothstein and Mishel (1996), the service index provides the most appropriate adjustment for inflation in the cost of education , reflecting differences in relative efficiency (and, therefore, inflation rates) between labor-intensive and capital-intensive industries. Rothstein and Mishel also remove shelter rent from the service index, although their results indicate that the index changes little when this component is removed.

[21]The CPI data use FY 1992 as the base year.

The equal opportunity analyses use bivariate rather than univariate statistics. Therefore, in addition to the revenue data described above, the equal opportunity analyses include the equalized adjusted property tax digest per weighted pupil as the measure of local wealth. As described earlier, the State of Georgia uses the equalized, adjusted tax digest for each district (as well as weighted FTE counts and effective millage rates) to determine QBE earnings. The state requires most districts[22] to assess property at 40 percent of its market value, with assessments carried out by local assessors. Since reliance on local assessments would provide an incentive for districts to systematically under-assess property (thereby earning higher state funding), the State Auditor is required to carry out an assessment-sales ratio study each year to determine actual local assessment rates. The state uses the results of the assessment-sales ratio study to equalize all local tax digests to the 40 percent assessment rate. Additionally, the equalized digest removes from the tax base the value of all state-mandated exemptions (such as a $2,000 homestead exemption for owner-occupied housing).

IV. Conceptual Basis and Framework

This paper uses the framework and measures developed by Berne and Stiefel[23] to examine horizontal equity, vertical equity and equal educational opportunity.

Horizontal equity, defined as the equal treatment of equals, examines the distribution of per-pupil resources across districts. Greater equality of per-pupil funding across districts indicates higher levels of horizontal equity. The desired level of equity requires a value judgement outside the scope of this analysis, though Odden and Picus offer suggested benchmark levels

[22]A small number of city districts are permitted to assess at a rate higher than 40 percent of market value. These districts are equalized to 40 percent for these analyses.

[23]Robert Berne and Leanna Stiefel, *The Measurement of Equity in School Finance* (Baltimore, MD: Johns Hopkins University Press, 1984).

(discussed below).[24] A wide range of univariate dispersion measures are available to quantify the equality of funding across districts, including: the McCloone index (which examines the distribution of resources to districts below the median per-pupil funding level), the coefficient of variation (which examines the variance in per-pupil funding across districts), the restricted range (which measures differences between districts at the 5th and 95th percentiles in per-pupil spending) and the standard deviation (which measures dispersion around the mean spending level).[25] Longitudinal comparisons of these measures for Georgia can quantify the degree to which equity has improved or worsened since the state implemented the QBE program.

Vertical equity, defined as the appropriately unequal treatment of unequals, is a more difficult concept to operationalize. Not all students have the same educational needs, and funding strategies have generally addressed students' special needs by providing greater resources to districts serving students who might require additional or more intensive services. The level of additional funding that such students should receive is often difficult to define, however. Therefore, vertical equity analyses frequently use methods such as correlation or regression analysis to determine *whether* students with special needs receive greater funding. Such analyses do not, however, address the more difficult question of *how much* more such students should receive.

An alternative to these bivariate measures of association is to assign weights to students based on their needs and characteristics, and then use these weighted student counts in combination with the univariate dispersion measures employed in horizontal equity analysis. For example, Parrish, Matsumoto and Fowler[26] use data from the National Center for Education

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[24]See Allan R. Odden and Lawrence O. Picus, *School Finance: A Policy Perspective* (New York: McGraw-Hill, 1992): 66-70, for a discussion of possible benchmarks for "desirable" values of horizontal equity measures.
[25]See Berne and Stiefel, *The Measurement of Equity*, for a complete list of horizontal equity measures.
[26]Thomas B. Parrrish, Christine S. Matsumoto and William J. Fowler, Jr., *Disparities in Public School Spending 1989-90*, (Washington, DC: U.S. Department of Education, National Center for Education Statistics, February 1995).

Statistics (NCES) to analyze vertical equity across the United States. In conducting their analyses, they assigned a weight of 2.3 to students receiving special education services. This weight reflects an assumption that special education students should receive 2.3 times the funding that non-special education students receive. Analytically, this approach is extremely valuable. Conceptually, though, agreement on the appropriate weights to use in the analyses requires difficult and value-laden decisions about how resources should be allocated across groups of students.

The Georgia QBE program provides an opportunity to apply this method of vertical equity analysis using externally determined student weights. The QBE formula contains funding weights, set annually by the Georgia General Assembly. These weights reflect the greater costs associated with educating students in various grades and those with special needs. For example, a student in the "Special Education Category I" program, which has a recommended pupil-teacher ratio of 8 to 1, carries a weight of approximately 2.3. The weight indicates that one FTE student in this program generates the same funding as 2.3 students in the grade 9-12 program (which has a weight of 1.0). Using the thirteen program weights defined under QBE permits vertical equity analysis to determine whether students in each of these programs appear to receive "appropriate" levels of funding, as defined by the state funding formula.[27]

A third equity principle identified by Berne and Stiefel is equal educational opportunity. Equal opportunity examines the relationship between per-pupil revenues or expenditures and district or student characteristics that might be considered "illegitimate" for the purposes of funding decisions. The principle typically employs a negative definition in which the absence of a relationship represents equal educational opportunity. The characteristics often considered "illegitimate" include such things as student race or sex, or district location. Since most school

districts rely heavily on the property tax for own-source revenues, the most common focus of equal opportunity analysis is district property wealth per pupil and its relationship with revenues for education. A neutral (or negative) relationship between local wealth and per-pupil resources indicates equal opportunity.[28] If disparities across districts exist, it important to determine whether these differences are due to "illegitimate" factors (such as differences in local wealth) or other factors (such as differences in local preferences for education).

V. Analyses and Results

A. Horizontal Equity

Tables 1a and 1b display the results of horizontal equity measures using nominal (unadjusted) and real (cost-adjusted) revenues from state and local sources for FY 1988 through FY 1996. The analyses use pupils rather than districts as the unit of analysis; therefore, all

[27]This analysis implicitly accepts the QBE program weights as "appropriate." No attempt is made in this paper to define a more appropriate standard.
[28]This principle is also commonly referred to as "fiscal neutrality"

Table 1a. Georgia Horizontal Equity Measures, 1988-1996
Total Basic Revenues
(**Unadjusted** for annual and district cost differences)

Fiscal Year	*Number of Districts*	*Number of Pupils (unweighted)*	*Mean*	*Median*	*General Range*	*Rest'ted Range*	*Coef. of Variation*	*McLoone Index*
1988	186	1,106,591	$2,919	$2,819	$3,125	$1,715	.169	.911
1989	186	1,116,413	3,171	3,107	3,756	1,981	.184	.884
1990	186	1,125,176	3,500	3,393	3,241	2,007	.172	.900
1991	185	1,148,206	3,632	3,476	3,219	2,007	.171	.913
1992	184	1,172,667	3,706	3,531	4,660	2,436	.211	.894
1993	183	1,198,675	3,880	3,836	3,461	2,483	.173	.886
1994	181	1,224,524	4,009	3,926	4,802	2,687	.178	.892
1995	180	1,252,131	4,185	4,041	4,220	2,366	.153	.925
1996	180	1,283,395	4,404	4,264	3,929	2,408	.144	.933

Table 1b. Georgia Horizontal Equity Measures, 1988-1996
Total Basic Revenues
(**Adjusted** for annual and district cost differences)

Fiscal Year	*Number of Districts*	*Number of Pupils (unweighted)*	*Mean*	*Median*	*General Range*	*Rest'ted Range*	*Coef. of Variation*	*McLoone Index*
1988	186	1,106,591	$4,310	$4,230	$4,610	$1,979	.140	.901
1989	186	1,116,413	4,329	4,165	5,335	2,114	.150	.915
1990	186	1,125,176	4,404	4,286	4,244	1,904	.142	.911
1991	185	1,148,206	4,213	4,106	4,419	1,700	.139	.912
1992	184	1,172,667	4,015	3,802	5,630	1,948	.174	.921
1993	183	1,198,675	3,977	3,872	4,230	1,990	.146	.915
1994	181	1,224,524	3,895	3,773	5,686	1,987	.149	.914
1995	180	1,252,131	3,884	3,777	5,572	1,732	.139	.914
1996	180	1,283,395	3,899	3,844	5,129	1,662	.126	.911

univariate calculations are weighted by the number of full-time equivalent students in the district. Table 1a contains results using nominal data, while Table 1b shows results using real data. Note that the number of school districts has been steadily declining, due in part to categorical incentive grants available to districts to promote consolidation. The mean in the top portion of the table shows that nominal per-pupil revenue for education (from state and local sources) has increased in each year (from $2,919 to $4,404 per pupil), while the median also increased in each year. In real terms (Table 1b) mean and median revenue generally declined between 1988 and 1996. Despite a small increase in the final year of the analysis, mean and median revenue per pupil remained lower in 1996 than in 1988.

Mean and median values provide information about typical revenue levels, but do not offer insight on disparities across districts. The remainder of the columns, which contain the general range, restricted range, coefficient of variation, and McLoone index, help to quantify these disparities. Figures 1 and 2 present the distribution of real revenues per FTE for 1988 and 1996, respectively. The general range is a crude measure of dispersion because of its sensitivity to outliers, but it is one easily understood and often cited in the popular press. Without taking cost differences into account (Table 1a), the range of state and local revenue across districts surpassed $3,000 in all years, reaching a high of $4,802 in FY 1994. The range is larger for real revenue than for nominal revenue in each year, with a high of $5,686 in FY 1994. For the restricted range (which eliminates the highest and lowest five percent of pupils), the real data also show somewhat smaller differences than the nominal data. Although no absolute standard exists for an "acceptable" range, the values for Georgia show that fairly large differences existed between the highest and lowest revenue districts. After eliminating the students at the top and

Figure 1: Distribution of Real Revenues Per Weighted FTE, FY 1988

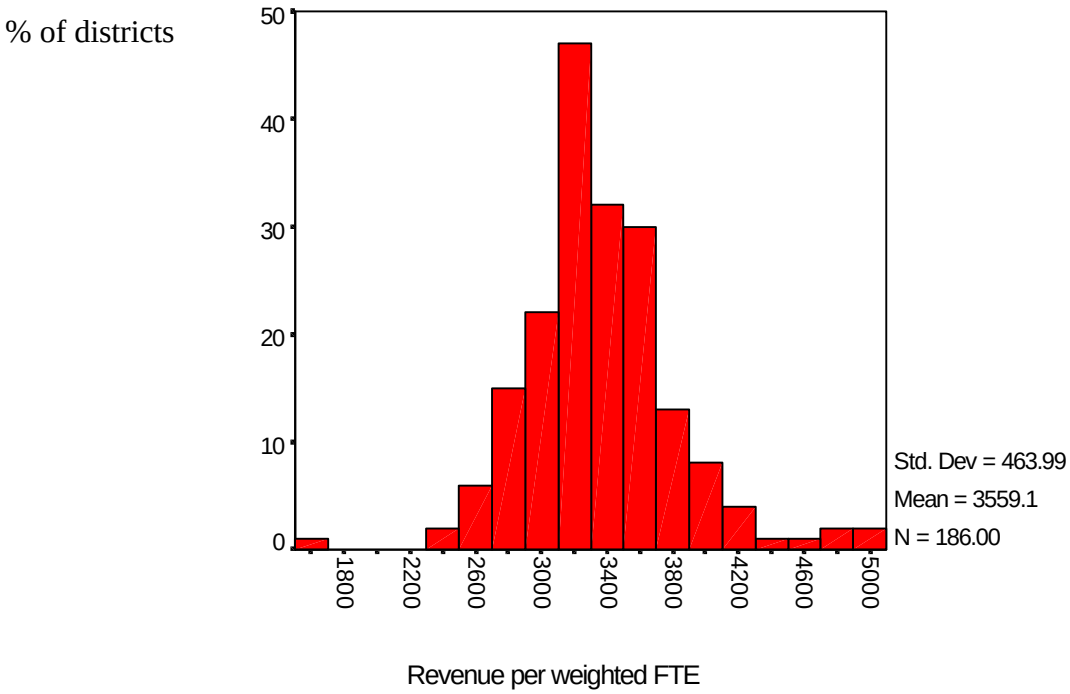
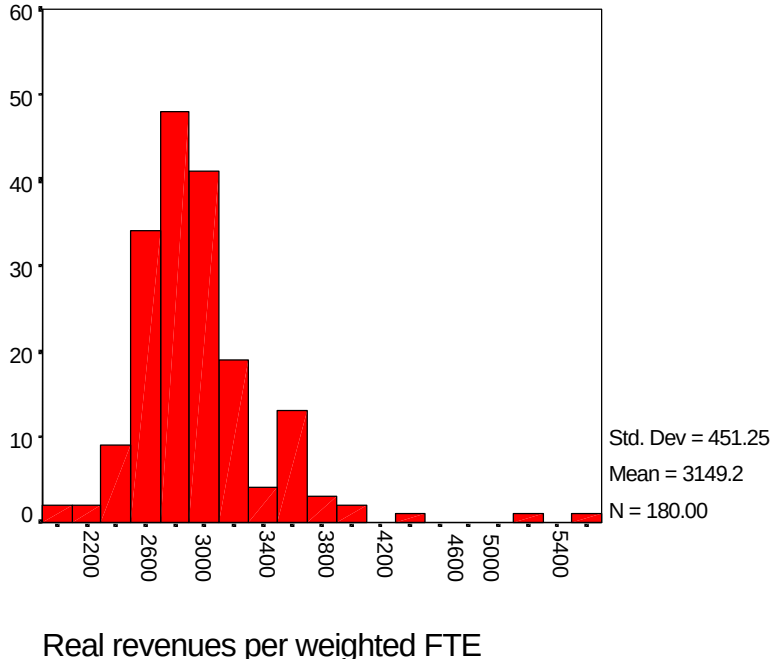


Figure 2: Distribution of Real Revenues Per Weighted FTE, FY 1996



bottom of the distribution, the differences are substantially smaller (typically close to $2,000 per pupil).

The coefficient of variation – unlike the range statistics – includes all districts and is insensitive to inflation.[29] Looking across years in Table 1a, the unadjusted coefficients of variation indicate that resources were more equally distributed in FY 1996 than in FY 1988, although the trend is not linear. This measure shows a substantial increase in inequality in FY 1992, the year in which Georgia was in the midst of a deep recession. The measure also shows that the lowest values occur in FY 1995 and FY 1996, indicating smaller revenue disparities across districts in the last two years of the analysis.

Calculated with cost-adjusted data (Table 1b), the coefficient of variation again shows higher levels of equity in the last two years and the greatest disparities in FY 1992. Although the trend is similar to those found with the unadjusted revenue data, the absolute levels are somewhat lower when calculated with the cost-adjusted data. This pattern suggests that nominal data may overstate the degree of inequity that exists across districts.

Unlike the coefficient of variation, the McLoone index focuses on districts below the median in per-pupil revenues or expenditures. A higher McLoone index indicates that total per-pupil funding in districts below the median is close to what it would be if all students below the median received the median funding level. Therefore, higher values reflect greater equity. The trend for the McLoone index is similar to that found for the coefficient of variation. For the unadjusted data, the index is lowest in 1989 through 1994 (with the exception of a higher value in 1991). The McLoone index increases in the last two years of the analysis, indicating a more equitable distribution of resources to districts below the median.

The results using the adjusted data show less variation than those using the unadjusted data. Surprisingly, though, the adjusted data produce the highest values in 1992, with lower values in more recent years. This pattern indicates greater equity (as measured by the McLoone index) in the recession years. Therefore, while it appears that the total dispersion of revenues across districts has decreased somewhat in recent years, districts below median revenue levels may be falling farther behind in real dollars. In absolute terms, however, the real data produce higher (more equitable) McLoone values in all but the most recent years.

As previously noted, no generally accepted standards exist for judging these measures. Odden and Picus, though, offer a suggested benchmark of .10 for the coefficient of variation, with lower values suggesting "acceptable" levels of equity. Using this benchmark, the results reflect an "unacceptable" level of equity in most years. The coefficient of variation is well above the standard in all years, using both real and nominal data.

Odden and Picus also suggest .90 and above as the benchmark for acceptable equity as measured by the McLoone index. For the adjusted data, the values for Georgia are at or above this benchmark in all years, but the unadjusted results fall below the benchmark in most years. The trend in the real data also suggests that Georgia could soon fall below the benchmark.

Taken as a whole, the horizontal equity measures provide a mixed picture of equity trends in Georgia during this period. The range statistics show large differences in average per-pupil revenues across districts, particularly using the real (cost-adjusted) data. Conversely, the coefficient of variation indicates greater equity when cost differences are taken into account. While the absolute levels of the coefficient of variation may be higher than desired, the overall dispersion of funding appears to be decreasing in recent years. The McLoone index raises a

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[29]While these measures are insensitive to annual cost differences, they can be affected by geographic cost differences. The coefficient of variation, because it includes the mean, can be influenced by outliers that affect the mean per-pupil object. See Berne and Stiefel, *The Measurement of Equity*, for greater detail on these measures.

potentially troubling direction, though, with districts in the lower half of the distribution falling farther behind median real revenue levels since the early 1990s. Using Odden and Picus' benchmarks as rough indicators, the McLoone values do not appear to reflect a crisis, but the downward trend does suggest that some concern over low-revenue districts may be warranted.

B. Vertical Equity

Vertical equity can be more difficult to assess than horizontal equity because of a lack of consensus about which students should be the beneficiaries of additional funding, and how much additional funding such students should receive. The program weights included in the QBE program provide a method to use externally derived weights to assess whether revenues in Georgia appear to be targeted as intended under QBE.

The vertical equity analyses follow a process identical to that used in the horizontal equity analyses, with one exception. Rather than using simple student FTE counts to calculate per-pupil revenues, the QBE program weights are used to construct *weighted* FTE counts. The weighted FTEs are then used to calculate the per-pupil variables for subsequent equity calculations.

Under the QBE program, students are counted for each 1/6 of the day that they spend in one of the thirteen program areas (see Appendix A). Thus, a high school student who spends four periods each day in a regular classroom and two periods in a gifted program would carry a weight of 1.0 for two-thirds of the day (grades 9-12 program) and a weight of 1.6 for one-third of the day (gifted program).[30]

The QBE Act gives the Governor the authority to appoint a "weights task force" every three years to examine and adjust these weights, but no task force has been in place since 1989.[31] The weights have changed slightly in each year, though, as the cost components used to calculate

[30]Note that the QBE weights provide no additional funding for students from low-income families, who are often the focus of vertical equity analyses (and supplementary funding). Therefore, the analyses presented here do not explicitly examine the distribution of funding to such students.

the weights have changed. For example, as teacher salaries increase, the weights for programs with low pupil-teacher ratios will increase more quickly than less teacher-intensive program areas. These analyses compute weighted pupil counts using the program weights in effect for the year of the calculation. Therefore, the weights used in the analyses vary across years.[32] The weighted per-pupil revenues are then used to calculate the univariate dispersion measures used previously.

Tables 2a and 2b present the unadjusted and adjusted equity measures using the weighted pupil counts. Notice that the adjusted per-pupil revenues used in these analyses reflect cost differences over time, across districts, and across different types of students. The mean and median for both the unadjusted and adjusted data are lower than the comparable numbers from the horizontal equity analyses because the weights increase the FTE counts and therefore lower per-pupil figures. Again, the mean and median show an increase in nominal revenues and a decrease in real revenues over the period. The general range and restricted range are also lower in the vertical equity analyses than in the horizontal equity analyses, indicating that differences across districts in pupil needs may account for some of the previously described funding disparities.

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[31]Williams, *Variation in Expenditures Per Student*, p. 114.

[32]These analyses examine whether resources are distributed as intended by legislation for each year. Future analyses will apply the same weights across multiple years in order to examine whether the resource distribution achieves a fixed standard of vertical equity.

Table 2a. Georgia Vertical Equity Measures, 1988-1996
Total Basic Revenues
(Unadjusted for annual and district cost differences)

Fiscal Year	*Number of Districts*	*FTE Students (weighted)*	*Mean*	*Median*	*General Range*	*Rest'ted Range*	*Coef. of Variation*	*McLoone Index*
1988	186	1,321,722	$2,443	$2,366	$2,357	$1420	.165	.910
1989	186	1,333,285	2,655	2,567	3,018	1,645	.180	.896
1990	186	1,348,183	2,921	2,890	2,378	1,678	.168	.884
1991	185	1,374,737	3,033	2,911	2,487	1,695	.168	.912
1992	184	1,365,763	3,183	3,036	4,061	2,198	.214	.892
1993	183	1,476,669	3,149	3,033	2,867	2,069	.173	.909
1994	181	1,529,830	3,209	3,064	3,357	1,996	.179	.914
1995	180	1,572,717	3,332	3,221	2,871	1,684	.150	.925
1996	180	1,631,475	3,465	3,350	2,753	1,775	.139	.935

Table 2b. Georgia Vertical Equity Measures, 1988-1996
Total Basic Revenues
(Adjusted for annual and district cost differences)

Fiscal Year	*Number of Districts*	*FTE Students (weighted)*	*Mean*	*Median*	*General Range*	*Rest'ted Range*	*Coef. of Variation*	*McLoone Index*
1988	186	1,321,722	$3,606	$3,538	$3,446	$1,697	.134	.906
1989	186	1,333,285	3,624	3,519	4,456	1,686	.145	.910
1990	186	1,348,183	3,675	3,577	3,260	1,588	.137	.915
1991	185	1,374,737	3,519	3,405	3,576	1,427	.135	.922
1992	184	1,365,763	3,447	3,280	4,944	1,826	.179	.913
1993	183	1,476,669	3,228	3,108	3,191	1,654	.142	.930
1994	181	1,529,830	3,117	3,039	3,636	1,611	.146	.912
1995	180	1,572,717	3,092	2,995	3,908	1,304	.132	.923
1996	180	1,631,475	3,067	3,028	3,628	1,194	.118	.916

Most of the dispersion measures shown in Tables 2a and 2b suggest that the distribution of resources across districts, accounting for differential student needs, is reasonably equitable. The tables show that the general range and restricted range of per-pupil revenue were substantially higher in FY 1992 than in other years. In both real and nominal dollars, the range

exceeded $4,000 per weighted FTE only in 1992, while the restricted range is near or below $2000 per pupil in each year.

The trends and absolute levels for the coefficient of variation are similar to those found in the horizontal equity analysis. The vertical equity coefficients tend to be slightly lower than those in the horizontal equity analyses, although the differences are small. The coefficient of variation reached its lowest levels in FY 1995 and FY 1996, suggesting that – when students needs are taken into account – state and local revenues have become more equitably distributed in recent years. Comparing the absolute values to the previously discussed benchmark, though, the coefficient of variation again consistently exceeds the benchmark level of .10.

While the coefficient of variation suggests that state and local revenues have become more equitably distributed in recent years, the McLoone index only partially supports that conclusion. For the unadjusted data, the least equitable values occur in the earliest years of the analysis, with higher values in 1995 and 1996. For the adjusted data, some of the lowest (least equitable) McLoone values are found in both the earliest and latest years of the analysis, with more equitable values in 1991 and 1993. The differences across years tend to be rather small, however. While the absolute values using the adjusted data are above the suggested benchmark of .90 in all years, the downward trend suggests that future concern may be warranted.

Given that the QBE formulas make no adjustment for differential costs across districts, it is surprising that the cost-adjusted measures (with the exception of the range statistics) often show a greater degree of equity than do the unadjusted measures. This pattern suggests that the highest cost districts (which are primarily located in metropolitan Atlanta) tend to also have the highest revenues and the data bear out this hypothesis. In 1996, for example, the twelve districts with the highest cost of education indices (all located in metropolitan Atlanta) faced average costs approximately 15 percent higher than the state average. These districts also had much higher FTE

counts than the state average (averaging 31,349 students as compared to 7,130 for the state) and higher than average revenues (averaging $4,762 in nominal dollars per unweighted pupil as compared to $4,404 for the state). Since the calculations are weighted by the number of pupils in each district, these larger districts (which also have higher costs and higher revenues) have a strong influence on the results. Adjusting for cost differences lowers the real revenue available to these large districts and therefore lowers observed disparities across districts.

C. Equal Educational Opportunity

To determine whether disparities in education revenues are caused by differences in local wealth, this section examines the relationship between the property tax base and cost-adjusted state and local revenues for education in Georgia for fiscal years 1994-1996.[33] Since the results for each of these three years are very similar, the discussion focuses on FY 1996.

The analyses presented here primarily use bivariate regression analysis to assess the magnitude and strength of the relationship between the per-pupil revenues and the property tax base in each district. The equations are specified in both simple linear and logarithmic functional forms. The simple bivariate form estimates the unit (dollar) increase in the dependent variable for every unit increase in the independent variable. The logarithmic form is used to estimate an elasticity; that is, the percentage change in the dependent variable associated with a one percent change in the independent variable. All analyses use pupils as the unit of analysis and are therefore weighted by district weighted FTE counts.

[33]Equalized adjusted tax digest data were not available for years before 1994. Analyses were conducted for 1994-96, producing very similar results for each year. Therefore, the discussion presents results only from FY 1996. The revenue data are adjusted for geographic cost differences but not for differences across years.

Table 3 displays the results of simple OLS regression equations using the equalized property tax digest (in thousands of dollars, assessed at 40 percent of market value) as the dependent variable and combined, cost-adjusted state and local revenue (as well as local revenue alone) as the independent variable. The data show a strong relationship between revenues for education and property wealth. The results in the first column indicate that every thousand dollar increase in equalized tax digest per pupil is associated with a $6.45 increase in revenue per pupil. Not surprisingly, the relationship between local revenues alone and property wealth is much stronger. The R-squared of 0.802 indicates that property wealth differences across districts explain over 80 percent of the variation in locally raised revenue. The results of the two equations in combination suggest state funding helps to greatly reduce the relationship between property wealth and education revenue, although the relationship remains fairly strong even when state revenues are included in the analysis.

Table 3. OLS Regression Results: Relationship Between Revenue and Property Tax Digest per Weighted FTE, FY 1996

Independent Variable	**Dependent Variables**	
	State and Local Revenue per Weighted FTE	Local Revenue per Weighted FTE
Constant	3459.52**	134.17**
	(.795)	(.637)
Equalized Digest (40%) Per Weighted FTE ($000)	6.45**	17.56**
	(.009)	(.007)
R-squared	.259	.802
	(376.29)	(301.75)

** Significant at the .01 level
* Significant at the .05 level
(standard error in parentheses)

Table 4 presents the results of the models using logarithmic functional forms to estimate elasticities. The results are similar to those using the simple linear form. The coefficient of .13 in the equation using the log of state and local revenue per pupil indicates that a one percent increase in the property tax base is associated with a .13 percent increase in state and local revenues per pupil. This relationship is much weaker and of much smaller magnitude than the elasticity of .995 found in the local revenue equation. While local revenue tends to increase in almost direct proportion to changes in the local property tax base, combined state and local revenue increases only slightly more than one percent when local tax base increase by ten percent. These results again indicate that state funding weakens, but does not completely eliminate, the relationship between property wealth and revenues.

Table 4. OLS Regression Results: Relationship Between Log of Revenue and Log of Property Tax Digest per Weighted FTE, FY 1996

Independent Variable	**Dependent Variables**	
	Log of State and Local Revenue per Weighted FTE	Log of Local Revenue per Weighted FTE
Constant	7.73**	2.96**
	(.001)	(.002)
Log of Equalized Digest (40%) Per Weighted FTE ($000)	.13**	.995**
	(.000)	(.000)
R-squared	.204**	.823**
	(.096)	(.176)

** Significant at the .01 level
* Significant at the .05 level
(standard error in parentheses)

Table 5 compares characteristics of five groups of districts, categorized by average property wealth per weighted FTE for FY 1996. Group 1 is the poorest quintile (36 districts) while group 5 is the wealthiest. As the first column shows, substantial disparities in per-pupil property wealth exist within the state, with the wealthiest twenty percent of districts averaging over three times the wealth of the poorest twenty percent. These wealth differences clearly translate into resource differences. Reading from left to right, the table shows that as districts become progressively wealthier, the total amount of state and local revenue available to them steadily increases. Districts in the wealthiest quintile had an average of almost $600 more in state and local revenue (adjusted for cost differences) per weighted FTE than did those in the poorest quintile.

Comparing only local revenue per pupil, though, the results again suggest that disparities across districts might be much greater in the absence of state funding. The differences in local revenue correspond closely to the differences in property wealth, with the wealthiest districts

Table 5. Descriptive Statistics by Quintile of Property Wealth
Per Weighted FTE, FY 1996

	Group 1	Group 2	Group 3	Group 4	Group 5
Avg. equalized digest (40%) per weighted FTE ($000)	$40.07	$53.14	$63.34	$79.88	$133.44
Avg. adjusted state and local revenue per weighted FTE	$3,916	$3,948	$4,110	$4,151	$4,509
Avg. local revenue per weighted FTE	$775	$960	$1,194	$1,530	$2,158
Avg. effective millage rate	14.31	14.44	15.30	14.98	14.80

generating an average of almost three times as much local revenue per weighted FTE as the poorest district.

Spending for education is a function not only of local wealth and intergovernmental grants, but also of local tax effort. Average effective millage rates across quintiles show little relationship between property wealth and property tax rates. As noted, however, the wealthiest districts were able to raise substantially higher revenues without substantially higher tax effort. In the absence of state equalizing grants, property poor districts would be forced to tax themselves at almost three times the rate of the wealthiest districts to raise an equivalent amount of revenue.[34] The data in table 5 show that, under QBE, tax effort is relatively equalized across groups of districts. QBE does not, however, eliminate the relationship between property tax wealth and revenues for education.

VI. Summary and Conclusions

The school funding formulas enacted under the Quality Basic Education Act provide an opportunity to explore changes in interdistrict equity over time, following a major state finance reform effort. As described, Georgia's efforts to improve equity were the direct result of unsuccessful litigation challenging the state's system of funding school districts. While the QBE provisions represented a major break from previous policies, little research has been conducted since to track revenues in the state and ensure that the formulas continue to provide a reasonably equitable distribution of resources.

The analyses presented in this paper offer no "smoking guns" in terms of equity. The measures of revenue dispersion across districts, particularly in the vertical equity analyses,

[34]Since rates are capped at 20 mills, it would be unlikely that such high tax effort would be legally possible (or politically feasible). These analyses do not consider the effects of differences in the preference for education across districts in the absence of state aid.

generally hover close to Odden and Picus' suggested benchmarks for identifying "acceptable" levels of equity, although the coefficient of variation and general range are rather high. Although the results are similar using weighted and unweighted pupil counts, the analyses generally show somewhat less horizontal equity than vertical equity. This pattern should not be surprising since the QBE formula explicitly allocates funding in relation to student needs. Therefore, a portion of the revenue disparities found in the horizontal equity analysis may merely reflect differences in need rather than an "unfair" resource distribution.[35] The revenue differences also reflect in part the large disparities in local property wealth across districts. While the distribution of state revenue to districts helps to greatly reduce the inequalities arising from differential property wealth, it does not eliminate these resource differences.

The longitudinal data also permit comparisons of equity trends over time. Using the coefficient of variation to examine the entire distribution of revenues across all districts, the trends for FY 1988 through FY 1996 show that equity worsened during a time of statewide recession in the early 1990s, but generally improved during the subsequent economic recovery. Using the McLoone index to focus on districts in the bottom half of the distribution the results are more mixed, with the cost-adjusted data showing slightly lower (less equitable) values in recent years. Although the overall distribution of revenues appears to be more equitable in recent years, the relative share of revenues devoted to students in the lower half of the distribution appears to be declining.

A possible explanation for this trend in the McLoone index centers on the state's emphasis on increasing teacher salaries. While the state has been funding the annual six percent increases in the minimum salary schedule, the additional local costs associated with teacher salaries may create greater fiscal pressure on low-revenue districts than on districts with more resources. Therefore,

[35]To the extent that the QBE weights do not reflect actual differences in the costs of educating these students, the

high revenue districts may be able to fund other expenditures beyond teacher costs, while low-revenue districts may have the capacity to support only the required expenditures associated with the salary increases.

As shown in Table 6, the state share of basic K-12 revenues generally declined during the first eight years of the analysis, from 60.0% in FY 1988 to 55.7% in FY 1994. As previously noted, equity worsened over the same period and particularly in FY 1992, a year that saw a sharp decline in the share of total revenues. When the state increased its share of basic K-12 revenues for two consecutive years (FY 1995 and FY 1996), equity improved. Thus, changes in relative state funding over time appear to affect the degree of funding equity within the state. Although tax digest data are only available for the most recent (and equitable) years, it is likely that the

Table 6. Sources of Basic K-12 Revenue State of Georgia, 1988-1996

	*Basic K-12 Revenue**		
Year	Local (% of total)	State (% of total)	Federal (% of total)
1988	35.6	60.0	4.5
1989	37.6	58.0	4.4
1990	37.3	58.3	4.4
1991	37.3	58.2	4.5
1992	38.3	56.5	5.2
1993	37.6	56.8	5.6
1994	38.8	55.7	5.5
1995	38.4	56.8	4.9
1996	37.4	57.6	4.6

*May not sum to 100% due to rounding

analyses may over- (under-) estimate the level of vertical equity in Georgia.

relationship between local wealth and education revenues was even stronger during the years of reduced state funding. State funding for education is strongly influenced by environmental and political factors, such as the health of the state's economy and state budget priorities. These findings suggest that funding trends should not be examined in isolation from the larger educational and economic context of the state.

While the analyses do not suggest that severe inequities have appeared since the adoption of the QBE reforms, subsequent analyses must also examine the adequacy of funding in Georgia. Despite efforts to increase spending, per-pupil expenditures in Georgia remain below the national average.[36] Additionally, the performance of students in the state has often been among the lowest in the country.[37] With the relatively low share of basic K-12 revenues (under 40%) borne by local systems, the state may continue to look to districts to share the burden of any spending increases.[38] As these equity analyses demonstrate, policy makers must be aware of the potential equity consequences caused by heavier reliance on local funding. The potential tradeoffs between equity and adequacy, and the increasing disparities for low-revenue districts evidenced by the McLoone index, provide a partial agenda for further study of Georgia's school finance reform efforts.

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[36]US Department of Education, National Center for Education Statistics. *Digest of Education Statistics, 1997*. NCES 98-015, by Thomas D. Snyder. Production Manager, Charlene M. Hoffman. Program Analyst, Claire M. Geddes. Washington, DC: 1997. Table 168.

[37]For example, in 1998 Georgia's average Scholastic Assessment Test (SAT) scores ranked 21st of 23 states in which over 50 percent of likely high school graduates took the SAT.

[38]The State share of *total* K-12 revenues decreased from 53.9% in FY 1988 to 47.9% in FY 1996, while the local share increased from 40.0% to 45.6%. Total K-12 revenues include all basic K-12 revenues plus revenues for food services, student transportation, and capital outlay.

Appendix A: FY 1996 QBE Program Weights

PROGRAM AREA	*QBE WEIGHT*
Kindergarten	1.330
Grades 1-3	1.245
Grades 4-5	1.020
Grades 6-8	1.024
Grades 9-12	1.000
High School Labs	1.242
Vocational Labs	1.356
Spec. Ed Category I	2.340
Spec. Ed Category II	2.717
Spec. Ed Category III	3.453
Spec. Ed Category IV	5.575
Gifted	1.636
Remedial Ed.	1.300

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About the Authors

Ross H. Rubenstein is Assistant professor of Public Administration and Urban Studies, with a joint appointment in the School of Policy Studies and the College of Education. His research focuses on education policy and finance, specifically funding equity and adequacy, performance measurement, and the link between school resource allocation and performance. His dissertation *School-Level Budgeting and Resource Allocation in the Chicago Public Schools: Processes and Results* (New York University, 1997) was awarded the Jean Flanigan Outstanding Dissertation Award by the American Education Finance Association. Dr. Rubenstein has also published his research in several journals and book chapters.

Dwight R. Doering is a Research Associate in the Fiscal Research Program and a former parochial and public school teacher. His responsibilities at FRP include the management and analysis of federal and state education data. His research interests include educational leadership, education finance, school choice, and charter school s movement.

Larry R. Gess is currently an Associate Director at the Carl Vinson Institute of Government at the University of Georgia. He has been Research Associate in the Fiscal Research Program, and on the staff of the Office of Planning and Budget for the State of Georgia.